the Experiment ſo as to deceive ſuch as were not very long-ſighted; but I muſt confeſs I have found it very hard to deceive thoſe who ſee at a great Diſtance; tho' they would all be deceiv'd, if the Diſtances were of 300 or 600 Foot. Now in the Caſe of the Moon, the Deceit is help'd, becauſe the Vapours, thro' which we ſee it when low, take away of its Brightneſs, and therefore have the ſame Effect as would (or does) happen in the Experiment, when the Light of the Ball *o p* ſtrikes the Eye no ſtronger than the Light of the Ball C D.

VII. *A Letter from* Joſeph Atwell, *D. D. F. R. S. and Principal of* Exeter College, Oxford, *to Dr.* Mortimer, *R. S. Secr. containing ſome Obſervations on a* Man *and* Woman *bit by* Vipers.

Exeter College, Oxford, July 24, 1734

SIR,

THE Man who was lately bitten by a *Viper* in the Preſence of yourſelf and ſeveral Members of the *Royal Society*, having been recommended to ſome in this Place by Dr. *Oliver* of the *Bath*, I imagin'd that Sir *Hans Sloane* and you will be pleaſed with an Account of ſuch Experiments as have been made here. *July* 3d, the Man was bit in the Preſence of ſeveral beſides myſelf, in the public Hall of this College. He received two Punctures in the Wriſt, a little above the Thumb: The Blood iſſued, and more Venom lay upon

on the Orifices, than could be immediately imbibed. The Man complain'd in about half an Hour's Time, that the Poiſon was got up to his Shoulder, and entering his Body; but notwithſtanding this, we did not ſuffer him to apply his Medicine [*Sallad-oil*] till an Hour and 10 Minutes after he was bitten: by which Time he began to be fluſh'd and in a Sweat, his Hand ſwoln and diſcolour'd. Upon an Application of his Medicine, he found ſome Abatement of his Pain; but the Swelling appear'd more viſible, and ſpread itſelf farther into his Arm. In about a quarter of an Hour the Man ſunk under the Table, and complain'd of violent Pains in his Back and Bowels, nor could he bear to be moved. At laſt, his Pulſe failing, his Jaw being fallen, his Countenance changed, and Eyes fix'd, we ſtretch'd him upon the Table, and applied the Medicine to his Belly and Stomach. Soon after which, recovering a little, he began to vomit, and brought up more than a Quart of Phlegm and Bile. In this Condition he lay for more than an Hour; and then was remov'd into my Lodgings; where he was ſeized again with a Fit of vomiting, and likewiſe purging, and continued ſo till Midnight. I kept him in my own Houſe above an Hour, in Hopes of his growing better; but his Diſorder ſtill continuing, and the Man being too weak and feeble even to ſtand, I ſent him in a Chair home to his own Lodgings; where he was put into Bed, and after Midnight fell aſleep, and awaked the next Morning perfectly well; excepting that his Arm was ſtill ſwoln, and the Fleſh pitted, as if it had been dropſical. His Arm was bound up in Papers, dipt in his own Medicine; and this was all, as far as I could obſerve or learn, that was applied to it. The ſame Day we

cauſed two young Chickens to be bit; one died in two Hours, and the other in four Hours Time. A Third was bit three times, and then had the Medicine applied; but it died at the End of ten Hours. The Fleſh of this laſt was grown very black, and there was much extravaſated Lymph between it and the Skin, which ſtunk inſufferably; but I could not perceive, that the Viſcera were at all diſcolour'd.

July 4th, We had another Fowl, half grown, bit in two Places, and the Medicine was applied: Half an Hour after which, the Fowl eat Meat, and ſeem'd much recover'd, but was dead in fourteen Hours Time. *July* 6th, We cauſed two half-grown Cocks to be bit; the firſt was bit but once, yet violently, and turned black immediately; it had the Medicine applied, eat Meat afterwards, and ſeem'd pretty well; yet died in twenty Hours. The other was bit two or three times, but hardly wounded, and not half ſo much diſcolour'd as the former: We bathed the Wound with *Viper-oil*, but the Fowl died in a little more than two Hours. *July* 8th, We cauſed two young Pidgeons to be bit; the one had *Viper-oil* applied immediately, but ſicken'd and died in four Hours: The other had *Olive-oil* applied, and recover'd perfectly; the Fleſh beginning to return to its natural Colour in about an Hour's Time.

July 17th, The Woman was bit in the publick Hall of *Brazen-Noſe-College*, in Preſence of Dr. *Frampton*, Dr. *Frewin*, and ſeveral other Phyſicians, myſelf, and many others. It had been ſuſpected, that they play'd ſome Tricks with their *Vipers*, and made them ſpend their Rage and Venom beforehand: To obviate which, a Phyſician of the Company had provided

vided ſome freſh *Vipers*, which he had caught himſelf a Day or two before, and kept in his own Cuſtody till that Time. The Woman was bit twice by one of theſe, and received three Wounds, one in the Thumb and two in the Fore-finger. Her Hand was ſoon ſwoln and ſpotted, and her Finger turn'd black. After three and twenty Minutes, ſhe applied the Medicine to her Hand, but not farther than the Swelling went; in which, I think, ſhe was to be blamed, and I ſuſpect the following Illneſs was in ſome Meaſure occaſion'd by it. She walk'd home very well in Appearance: But about three Hours after the Bite was received, ſhe grew very ſick, and in great Pain; was ſeiz'd with Vomiting, Purging, and Fainting-fits, which continued upon her all Night, inſomuch that the People of the Houſe deſpair'd of her Life: Nor had ſhe any Sleep till Noon the Day following. I ſaw her about Six that Evening, when ſhe awak'd, and found her very well in Spirits, but complaining of moſt acute Pains in her Finger. Her Arm, Shoulder, Back, and Breaſt, on that Side, were much ſwoln and inflam'd: All thoſe Parts thus affected were bound up in Papers ſoak'd in the Medicine. After this there appear'd upon her Finger two large Bladders, full of a black corrupt Matter; and this not only upon the Wound, but one of them was upon a diſtant Part of the Finger from it. She could not be perſuaded to open them, which I believe would have eaſed her conſiderably. *July* 20th, The Swelling was conſiderably abated, and almoſt reduced intirely into her Hand, which began to pit: But ſhe complain'd ſtill of her Finger, and could hardly endure to have it dreſs'd with freſh Papers. She continued in Bed till the 22d, for the ſake

ſake of keeping her Hand in a more eaſy Poſture; and then came abroad. The ſame Day that the Woman was bit, we cauſed a Fowl to be bit; but the Wound was not deep, and little more than a Scratch. Nothing was applied to it, and it died in twenty Hours. A large Puppy was bit the ſame Day three times in the Head, had the Medicine applied, but died in about an an Hour. It was known that theſe People kept themſelves faſting thoſe Days when the Experiment was to be tried upon them: This occaſion'd a Suſpicion that they might take ſome Antidote to prepare their Bodies: For which Reaſon, I order'd the Man to bring me ſome *Vipers* after Dinner, laſt *Monday*, under Pretence of making ſome farther Experiments upon Dogs. We had provided at the ſame Time ſome freſh *Vipers* without his Knowledge, and then propoſed to him to be bit by one of them, and apply his Medicine immediately. His Hand was beſmear'd with the Medicine in applying it to a young Dog, upon which we had juſt made an Experiment. Two *Vipers* were tried upon the Man, but neither would bite him: One of them attempted it ſeveral times, and ſpilt his Venom, but always caught back his Head again, as if there had been ſomething in the Hand offenſive. Upon this, ſuſpecting that the Smell of the Medicine might occaſion it, we made him waſh his Hand, after which another *Viper* bit him immediately: But whether our Conjecture was right or not, muſt depend upon farther Trial. The Man received the Bite upon the Joint of the Thumb, and the Blood iſſued at the two Orifices. He applied the Medicine inſtantly: The Thumb appear'd black ſoon, the Hand was ſwoln, and the Fleſh pitted inſtantly. He drank a Mug of Ale after

it

it, and then went home to Bed. Yeſterday Morning, his whole Arm was ſwoln, but the Man was ſo well that he went ſix Miles out of Town, and came home again in the Evening. I have ſeen him again this Morning; the Swelling is almoſt gone above the Elbow, but the Fleſh pits below: The Wound has bliſter'd, but the Bladders were filled with a Water, and not any Thing of that black Matter which appear'd upon the Woman's Finger. We cauſed a young Dog (mention'd before) to be bit the ſame Day, and applied the Medicine: Another Dog was bit three times in the Noſe, and nothing applied: Both are much ſwoln, but very likely to live. We likewiſe thruſt the Teeth of a *Viper*'s Head cut off twenty-four Hours before, into the Fleſh of a Fowl, which turn'd black immediately, but the Fowl is perfectly recover'd without any Application.

I leave you, Sir, to make your own Reflections upon theſe Experiments; and ſhall only add, that I would by no means encourage the Man to go on with them; ſince they muſt at leaſt occaſion him much Pain and Miſery, more than the Gains are worth, and perhaps injure his Conſtitution likewiſe. It is rather to be wiſhed, that he could obtain ſome Reward, and make the Medicine public; in which caſe there would probably be unfortunate Perſons enough in the Country, who would have Occaſion to try it, without torturing themſelves deſignedly. I am,

SIR,

Your very humble Servant,

Jo. Atwell.